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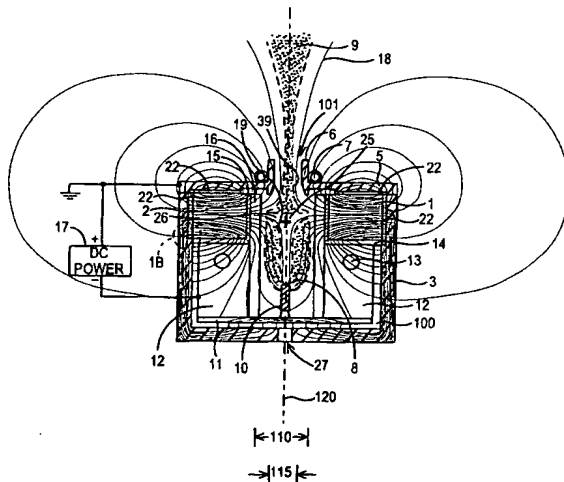
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(54) Title: BEAM PLASMA SOURCE



(57) Abstract: A plasma source which includes a discharge cavity having a first width, where that discharge cavity includes a top portion, a wall portion, and a nozzle disposed on the top portion and extending outwardly therefrom, where the nozzle is formed to include an aperture extending through the top portion and into the discharge cavity, wherein the aperture has a second width, where the second width is less than the first width. The plasma source further includes a power supply, a conduit disposed in the discharge cavity for introducing an ionizable gas therein, and at least one cathode electrode connected to the power supply, where that cathode electrode is capable of supporting at least one magnetron discharge region within the discharge cavity. The plasma source further includes a plurality of magnets disposed adjacent the wall portion, where that plurality of magnets create a null magnetic field point within the discharge cavity.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C23C 16/00; C23F 1/02; H01J 7/24

US CL : 118/723 DC, 723R, 723VE, 723EB; 156/345.33, 345.35; 315/111.81, 111.91, 111.41

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B. FIELDS SEARCHED

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U.S. : 118/723 DC, 723R, 723VE, 723EB; 156/345.33, 345.35; 315/111.81, 111.91, 111.41

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,838,120 (SEMENKIN et al) 17 November 1998 (17.11.1998), Figures 1-3.	1-19

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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